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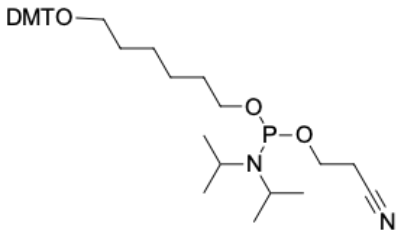
C6 Spacer phosphoramidite

http://www.lumiprobe.com/p/phosphoramidite-spacer-c6

C6 spacer phosphoramidite serves as a crucial tool in nucleic acid chemistry, enabling researchers to design more effective oligonucleotides by incorporating hydrophobic spacers that enhance performance in various biochemical applications. Its ability to minimize unwanted interactions while providing structural flexibility makes it an invaluable reagent in modern molecular biology techniques. Multiple spacers can be added to achieve precise control over the length of the spacer arms, which is essential in studies involving hairpin loops and duplex formations.

The C6 spacer is hydrophobic, making it suitable for applications where water solubility is not critical. It effectively distances fluorescent dyes or other modifications from the oligonucleotide sequence, reducing quenching effects. For example, G-rich sequences can quench fluorescein; adding a spacer helps mitigate this issue.

This spacer can be utilized in various contexts, including PCR amplification and hybridization assays. It allows for flexibility in the design of probes and primers, which can be crucial for specific applications like Scorpion Primers and SMART detection assays.



Structure of C6 Spacer phosphoramidite

General properties

Appearance:	colorless oil
Molecular weight:	620.77
Molecular formula:	$C_{36}H_{49}N_2O_5P$
Solubility:	DCM, acetonitrile, DMF, DMSO. Sensitive to moisture in solvents
Quality control:	NMR ^{1}H, ^{31}P, HPLC-MS (95%), functional testing
Storage conditions:	12 months after receival at -20°C in the dark. Transportation: at room temperature for up to 3 weeks. Desiccate.
Legal statement:	This Product is offered and sold for research purposes only. It has not been tested for safety and efficacy in food, drug, medical device, cosmetic, commercial or any other use. Supply does not express or imply authorization to use for any other purpose, including, without limitation, in vitro diagnostic purposes, in the manufacture of food or pharmaceutical products, in medical devices or in cosmetic products.

Oligo synthesis details

Diluent:	anhydrous acetonitrile
Coupling conditions:	standard conditions identical to normal nucleobases. Tolerates oxidation step conditions.
Cleavage conditions:	in concentrated ammonium hydroxide for 5 hours at 60 °C (or 1 hour for fast-deprotecting amidites). AMA mixture (concentrated aqueous ammonia/40% methylamine 1:1) for 15 min at 65 °C.